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Docket No.: 1081.1102

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Masatoshi AKAGAWA

Serial No. 09/754,323

Group Art Unit: 2823

Confirmation No. 3680

Filed: January 5, 2001

Examiner: Khiem D. Nguyen

For: SEMICONDUCTOR DEVICE AND MANUFACTURING METHOD THEREFOR

RESPONSE

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Applicants hereby respond to the Office Action mailed April 27, 2004.

STATUS OF CLAIMS

All of the pending claims 4-6, 14, and 16-21 are rejected.

NOTICE OF WITHDRAWAL OF NON-FINAL ACTION MAILED JANUARY 9, 2004

Applicant's attorney acknowledges and appreciates the withdrawal of the non-final Action mailed January 9, 2004, based on the personal interview on February 12, 2004 in the related divisional application Serial No. 10/158,155 (now allowed). The January 9, 2004 Action--as did prior Actions herein, including the FINAL Office Action mailed June 3, 2003--relied on Akram USP 6,235,554 in the anticipation rejection of claims 14-17 and Akram taken in view of Itabashi et al. (USP 6,300,244), in the obviousness rejection of claims 1-6.

As noted in the first paragraph at page 2 of the current Office Action, in the personal interview of February 12, 2004, applicants urged that Akram did not support either the anticipation or the obviousness rejections for several reasons, including those set forth in the

Interview Summary of February 12, 2004:

Applicant's representative contends that the prior art fails to teach an integrated structure having chip embedded inside insulating...[layer].... Akram et al. fail to teach the limitations in claim 14, further search is required to reject the claimed invention or application...[will]...be passed to issue.

(Copy attached as Exhibit A hereto; emphasis added.)

As explained below, Lauder et al., newly cited and relied upon in the present Action, is no more pertinent than Akram and likewise fails to teach structures explicitly recited in claim 14 and all other independent claims herein--as discussed below.

ITEMS 1, 2 AND 3: REJECTIONS OF CLAIMS 14 AND 16, CLAIM 17 AND CLAIMS 18-21, RESPECTIVELY, FOR ANTICIPATION UNDER 35 USC § 102(e) BY LAUDER ET AL. (USP 6,130,823); and

The rejections are respectfully traversed.

Lauder teaches a vertically stacked structure of a first module 30 and a second module 32 as shown in Fig. 2, each module identical to the structure shown in Fig. 1. Interconnection pads 22 are formed on the top surface of an encapsulating layer 18, so as to contact respective conductive vias 20 which extend through the encapsulating layer 18 and through aligned vias in the non-conducting support member 10--and which, together, electrically interconnect the pads 22 and the conductive balls 12. The pads 22, as shown and described to be on the top surface of the insulating layer 18, clearly are not "embedded within the first insulating layer..." as recited independent claim 14 and the other independent claims. (See Merriam-Webster Unabridged Dictionary definition of "embed" as meaning: "to enclose closely in or as if in a matrix...to surround closely...." (Copy attached as Exhibit B))

As an optional feature, Lauder discloses:

[H]eat transfer material 34, suitably isolated from the balls 12 and pads 22,...may be placed between the two modules to improve cooling.... However, the gap between the two modules need not be filled with a heat transfer material 34, so as to allow cooling by the passage of air between the modules.

(Lauder USP '823 at col. 3, lines 41-46)

Throughout the above rejections, the Action purports to read the common recitations of the independent claims as follows:

a first conductive layer (**FIGS. 1-2: 22**) comprising a first wiring pattern, embedded within the first insulating layer (col. 3, lines 26-40); a second conductive layer (located in the second module of Fig. 2: 32) comprising a second wiring pattern....

(Item 1 at page 2 of the Action, and elsewhere, as noted; emphasis added.)

Contrary to the Examiner's proposed reading, in the individual modules 30 and 32, as in the structure 24 of Fig. 1 of Lauder there is no "first conductive layer, comprising a first wiring pattern, embedded within the first insulating layer..." as recited in claim 14. In other words, even assuming that the encapsulating layer 18 constitutes a first insulating layer, the interconnect pads 22 are not embedded therein; instead, they are formed on the upper surface of the encapsulating layer 18. Lauer teaches only that the encapsulating layer 18 "may cover the upper surface of the support member 10, including the electronic devices 14 and the chip select decoder 16." (Col. 3 at lines 19-21)

As noted above, claim 14 further requires "a second conductive layer..." which the action reads on Fig. 2, element 32 of Lauder, as follows:

a second conductive layer (located in the second module of **FIG. 2: 32**) comprising a second wiring pattern, on the first insulating layer....

(Ibid; emphasis added)

In Fig. 2 of the application, the first insulating layer 23 embeds therein the first conductive layer 22. Further, the second conductive layer 24 comprises "a second wiring pattern, on the first insulating layer 23...." (Emphasis added)

The Examiner's reading is altogether in error, since specifying:

a second conductive layer (located in the second module **FIG. 2: 32**) comprising a second wiring pattern, on the first insulating layer....

(Emphasis added)

With reference to Fig. 2 of Lauder, the "first insulating layer" of the Examiner's reading of claim 14 is layer 18 of the lower, first module 30. It follows that the "second conductive layer..."

which the Examiner expressly reads as being "located in the second module of Fig. 2 col. 32..." is necessarily residing on the surface of the second insulating layer 18 of the second module 32--and not the first insulating layer 18 of the first module 30.

In short, in Fig. 2 of Lauder, on which the Action relies, the specification makes clear that the disclosed structure is merely a stacked assemblage of two modules 30 and 32, each identical to the structure of Fig. 1:

With reference to Fig. 2 where two stackable ball grid array modules of the type illustrated in Fig. 1 are stacked, a second module 32 is placed on top of first module 30. The first module 30 and second module 32 may or may not be identical.

This clearly is not the integrated structure specified in claim 14 and the other independent claims herein--and the limitations of which are inherited as well by the respective dependent claims.

As noted above, Lauder thus is no more pertinent to the present invention than Akram et al., previously relied upon herein and withdrawn heretofore, as above noted. Accordingly, it is submitted that the anticipation rejections of Items 1 through 3 of the Action are unsupported and should be withdrawn.

ITEM 4: REJECTION OF CLAIMS 4-6 FOR OBVIOUSNESS UNDER 35 USC § 103(a) OVER LAUDER ET AL. IN VIEW OF ITABASHI ET AL. (USP 6,300,244)

The rejections are respectfully traversed.

With respect to the obviousness rejections of Item 4 of the Action, Itabashi et al. was distinguished in the prosecution of the above referenced divisional application Serial No. 10/158,155 and was shown to be inadequate to overcome the deficiencies of Akram during that prosecution--and is equally inadequate to overcome the deficiencies of Lauder relied upon herein.

Accordingly, the rejections of item 4 of the Action for obviousness over the combination on Lauder and Itabashi under 35 USC § 103(a) are defective and unsupported and should be withdrawn.

LACK OF DEMONSTRATION OF *PRIMA FACIE* OBVIOUSNESS OF THE COMBINATION OF LAUDER AND ITABASHI

No demonstration of *prima facie* obviousness in support of the combination has been set

forth and the same, accordingly, is defective. The Federal Circuit has rejected reliance on "basic knowledge" or "common sense" as affording "no evidentiary support", In re Zurko, 258 F3d 1379, 59 USPQ2d 1693 (Fed. Cir. 2001), and which has been rigorously endorsed by the PTO in accordance with the Memorandum of Stephen G. Kunin of February 21, 2002: "Procedures For Relying On Facts Which Are Not Of Record As Common Knowledge Or For Taking Official Action." (Hereinafter, "Kunin Memorandum", copy enclosed) The "lack of substantial evidence" is evident in the Action (see Kunin Memorandum, page 1, Exhibit C hereto).

Clearly, the Examiner is merely advancing unsupported contentions, based presumably on "common sense" and without evidentiary support, to propose the combinations relied upon--and the Kunin Memorandum unqualifiedly rejects same as inadequate.

CONCLUSION

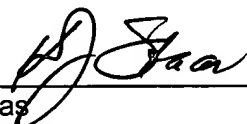
It is respectfully submitted that the rejections have been overcome and the pending claims patentably distinguish over the references of record and, there being no other objections or rejections, it is submitted that the application is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,

STAAS & HALSEY LLP

Date: July 27, 2004

By:


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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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10/158,155 05/31/02 Masatoshi A Kagawa 1081.1102D



EXAMINER

KHIEM D. Nguyen

ART UNIT	PAPER NUMBER
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2823 021204

DATE MAILED:

INTERVIEW SUMMARY

All participants (applicant, applicant's representative, PTO personnel):

(1) KHIEM D. Nguyen (3) David Coleman
(2) Attorney H.J. Stass (4) _____

Date of Interview 02/12/04

Type: ☐ Telephonic ☐ Televideo Conference ☒ Personal (copy is given to ☐ applicant ☒ applicant's representative).

Exhibit shown or demonstration conducted: ☐ Yes ☐ No If yes, brief description: _____

Agreement ☒ was reached. ☐ was not reached.

Claim(s) discussed: 14-31 (ALL)

Identification of prior art discussed: _____

Description of the general nature of what was agreed to if an agreement was reached, or any other comments: Applicant's representative contends that the prior Art fails to teach integrated structure having chips embedded inside insulating layer. It also fail to teach limitations in claim 14, further search^{is} required to reject the claimed invention on application be

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable to issue must be attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

☐ It is not necessary for applicant to provide a separate record of the substance of the interview.

Unless the paragraph above has been checked to indicate to the contrary, A FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW.

Examiner Note: You must sign this form unless it is an attachment to another form.

Khiem Nguyen 02/12/04

W. David Coleman

W. DAVID COLEMAN
PRIMARY EXAMINER



[Print this entry](#)

One entry found.

Main Entry: **emBed**

Variant(s): or **imBed** /əm'bed, em-/

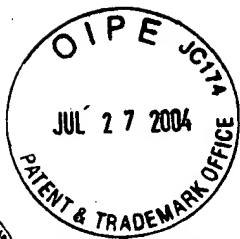
Function: *verb*

Etymology: ¹*en-* or ²*in-* + *bed* (n.)

transitive verb

1 a : to enclose closely in or as if in a matrix <pebbles *embedded* in silt> <*embed* brick firmly in mortar> **b** : to introduce as an integral part <*embeds* Latin constructions in a passage of Italian -- *Publ's Mod. Lang. Association of American*> <the tales of his prowess that have become *embedded* in folklore> **c** : to prepare (material for microscopic examination) for sectioning (as with a microtome) by infiltrating with and enclosing in a supporting substance (as paraffin or celloidin)
2 : to surround closely : **ENCLOSE** <a sweet edible pulp *embeds* the seed of plums and related fruits>
intransitive verb : to become **embedded** <dirt *embeds* under their fingernails> <the great bulk of the tree slowly *embedded* into the soft soil>

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UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENT
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 2023
www.uspto.gov

Date: February 21, 2002

To: Patent Examining Corps
Technology Center Directors

From: Stephen G. Kunin
Deputy Commissioner for Patent Examination Policy

Subject: Procedures for Relying on Facts Which are Not of Record as
Common Knowledge or for Taking Official Notice

This memorandum clarifies the circumstances in which it is appropriate to take official notice of facts not in the record or to rely on "common knowledge" in making a rejection.

Recent court decisions have affected the Office's practice of taking official notice of facts by relying on common knowledge in the art without a reference. Specifically, the Supreme Court recently changed the standard of review applied to decisions of the Board of Patent Appeals and Interferences and the Trademark Trial and Appeal Board on appeal to the U.S. Court of Appeals for the Federal Circuit. *Dickinson v. Zurko*, 527 U.S. 150, 50 USPQ2d 1930 (1999). As a result, the Federal Circuit now reviews findings of fact under the "substantial evidence" standard under the Administrative Procedure Act (APA), rather than the former "clearly erroneous" standard. *In re Gartside*, 203 F.3d 1305, 1315, 53 USPQ2d 1769, 1775 (Fed. Cir. 2000).¹ This change in the review standard has affected the Federal Circuit's view of when the court or the USPTO may take notice of facts without specific documentary evidence support.²

On remand from the Supreme Court, the Federal Circuit in *In re Zurko*, 258 F.3d 1379, 59 USPQ2d 1693 (Fed. Cir. 2001), reversed the Board's decision upholding a rejection under 35 U.S.C. 103 for lack of substantial evidence. Specifically, in *Zurko* and other recent decisions, the court criticized the USPTO's reliance on "basic knowledge" or "common sense" to support an obviousness rejection, where there was no evidentiary support in the record for such a finding.³ In light of the recent Federal Circuit decisions and the substantial evidence standard of review now applied to USPTO Board decisions, the following guidance is provided in order to assist the examiners in determining when it is appropriate to take official notice of facts without

supporting documentary evidence or to rely on common knowledge in the art in making a rejection, and if such official notice is taken, what evidence is necessary to support the examiner's conclusion of common knowledge in the art.

(1) Determine when it is appropriate to take official notice without documentary evidence to support the examiner's conclusion.

Official notice without documentary evidence to support an examiner's conclusion is permissible only in some circumstances. While "official notice" may be relied on, as noted in MPEP § 2144.03, these circumstances should be rare when an application is under final rejection or action under 37 CFR 1.113. Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known.⁴ In appropriate circumstances, it might not be unreasonable to take official notice of the fact that it is desirable to make something faster, cheaper, better, or stronger without the specific support of documentary evidence. Furthermore, it might not be unreasonable for the examiner in a first Office action to take official notice of facts by asserting that certain limitations in a dependent claim are old and well known expedients in the art without the support of documentary evidence provided the facts so noticed are of notorious character and serve only to "fill in the gaps" which might exist in the evidentiary showing made by the examiner to support a particular ground of rejection.⁵

It would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known. For example, assertions of technical facts in the areas of esoteric technology or specific knowledge of the prior art must always be supported by citation to some reference work recognized as standard in the pertinent art.⁶

It is never appropriate to rely solely on "common knowledge" in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based.⁷ As the court held in *Zurko*, an assessment of basic knowledge and common sense that is not based on any evidence in the record lacks substantial evidence support.⁸

(2) If official notice is taken of a fact, unsupported by documentary evidence, the technical line of reasoning underlying a decision to take such notice must be clear and unmistakable.

Ordinarily, there must be some form of evidence in the record to support an assertion of common knowledge.⁹ In certain older cases, official notice has been taken of a fact that is asserted to be "common knowledge" without specific reliance on documentary evidence where the fact noticed was readily verifiable, such as when other references of record supported the noticed fact, or where there

was nothing of record to contradict it.¹⁰ If such notice is taken, the basis for such reasoning must be set forth explicitly. The examiner must provide specific factual findings predicated on sound technical and scientific reasoning to support his or her conclusion of common knowledge.¹¹ The applicant should be presented with the explicit basis on which the examiner regards the matter as subject to official notice and be allowed to challenge the assertion in the next reply after the Office action in which the common knowledge statement was made.

(3) If applicant challenges a factual assertion as not properly officially noticed or not properly based upon common knowledge, the examiner must support the finding with adequate evidence.

To adequately traverse such a finding, an applicant must specifically point out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art.¹² A general allegation that the claims define a patentable invention without any reference to the examiner's assertion of official notice would be inadequate. If applicant adequately traverses the examiner's assertion of official notice, the examiner must provide documentary evidence in the next Office action if the rejection is to be maintained.¹³ If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2).

If applicant does not traverse the examiner's assertion of official notice or applicant's traverse is not adequate, the examiner should clearly indicate in the next Office action that the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate. If the traverse was inadequate, the examiner should include an explanation as to why it was inadequate.

(4) Determine whether the next Office action should be made final.

If the examiner adds a reference in the next Office action after applicant's rebuttal, and the newly cited reference is added only as directly corresponding evidence to support the prior common knowledge finding, and it does not result in a new issue or constitute a new ground of rejection, the Office action may be made final. If no amendments are made to the claims, the examiner must not rely on any other teachings in the reference if the rejection is made final. If the newly cited reference is added for reasons other than to support the prior common knowledge statement and a new ground of rejection is introduced by the examiner that is not necessitated by applicant's amendment of the claims, the rejection may not be made final. See MPEP § 706.07(a).

(5) Summary.

Any rejection based on assertions that a fact is well-known or is common knowledge in the art without documentary evidence to support the examiner's conclusion should be judiciously applied. Furthermore, as noted by the court in *Ahlert*, any facts so noticed should be of notorious character and serve only to "fill in the gaps" in an insubstantial manner which might exist in the evidentiary showing made by the examiner to support a particular ground for rejection. It is never appropriate to rely solely on common knowledge in the art without evidentiary support in the record as the principal evidence upon which a rejection was based.¹⁴

MPEP § 2144.03 will be revised accordingly in the upcoming revision to be consistent with this memo.

Cc: Nicholas Godici
Esther Kepplinger
Kay Kim
David Lacey

¹ The Supreme Court has described substantial evidence review in the following manner:

Substantial evidence is more than a mere scintilla. It means such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.... Mere uncorroborated hearsay or rumor does not constitute substantial evidence.

Consolidated Edison Co. v. NLRB, 305 U.S. 197, 229-30 (1938) (quoted in *Gartside*, 203 F.3d at 1312, 53 USPQ2d at 1773). "Substantial evidence" review involves examination of the record as a whole, taking into account evidence that both justifies and detracts from an agency's decision." *Gartside*, 203 F.3d at 1312, 53 USPQ2d at 1773 (citing *Universal Camera Corp. v. NLRB*, 340 U.S. 474, 487-88 (1951)). Furthermore, the Supreme Court has also recognized that "the possibility of drawing two inconsistent conclusions from the evidence does not prevent an administrative agency's finding from being supported by substantial evidence." *Consolo v. Federal Maritime Comm'n*, 383 U.S. 607, 620 (1966) (quoted in *Gartside*, 203 F.3d at 1312, 53 USPQ2d at 1773).

² See *Packard Press, Inc. v. Hewlett-Packard Co.*, 227 F.3d 1352, 1360, 56 USPQ2d 1351, 1356 (Fed. Cir. 2000) (questioning authority to take judicial notice for the first time on appeal in light of the APA standard of review established by *Dickinson v. Zurko*, 527 U.S. at 165, 50 USPQ2d at 1937). Although the substantial evidence standard is deferential to the agency's decision, it imposes certain evidentiary requirements that must be met by the agency in formulating a decision. The Federal Circuit explained that "[i]n appeals from the Board, we have before us a comprehensive record that contains the arguments and evidence presented by the parties, including all of the relevant information upon which the board relied in rendering its decision." *Gartside*, 203 F.3d at 1314, 53 USPQ2d at 1774. Furthermore, the record is "closed, in that the Board's decision must be justified within the four corners of that record." *Id.* Thus, the record before the USPTO "dictates the parameters of review" available to the court. *Id.* Accordingly, "the Board's opinion must explicate its factual conclusions, enabling [the court] to verify readily whether those conclusions are indeed supported by 'substantial evidence' contained within the record." *Id.* (citing *Gechter v. Davidson*, 116 F.3d 1454, 1460, 43 USPQ2d 1030, 1035 (Fed. Cir. 1997)).

³ *Zurko*, 258 F.3d at 1385, 59 USPQ2d 1697 ("the Board cannot simply reach conclusion based on its own understanding or experience—or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings."). See also *In re Lee*, ___ F.3d ___, ___, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002) (The Board determined that it was not necessary to present a source of a teaching, suggestion, or motivation to combine the references

because the conclusion of obviousness may be made from common knowledge and common sense of a person of ordinary skill in the art. The court reversed the Board's decision in sustaining a rejection under 35 U.S.C. 103 and stated that "'common knowledge and common sense' on which the Board relied in rejecting Lee's application are not the specialized knowledge and expertise contemplated by the Administrative Procedure Act. Conclusory statements such as those here provided do not fulfill the agency's obligation...The board cannot rely on conclusory statements when dealing with particular combinations of prior art and specific claims, but must set forth the rationale on which it relies").

⁴ As noted by the court in *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970), the notice of facts beyond the record which may be taken by the examiner must be "capable of such instant and unquestionable demonstration as to defy dispute" (citing *In re Knapp Monarch Co.*, 296 F.2d 230, 132 USPQ 6 (CCPA 1961)). In *Ahlert*, the court held that the Board properly took judicial notice that "it is old to adjust intensity of a flame in accordance with the heat requirement." See also *In re Fox*, 471, F.2d 1405, 1407, 176 USPQ 340, 341 (CCPA 1973) (the court took "judicial notice of the fact that tape recorders commonly erase tape automatically when new 'audio information' is recorded on a tape which already has a recording on it").

⁵ *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697; *In re Ahlert*, 424 F.2d at 1092, 165 USPQ at 421.

⁶ *In re Ahlert*, 424 F.2d at 1091, 165 USPQ at 420-21. See also *In re Grose*, 592 F.2d 1161, 1167-68, 201 USPQ 57, 63 (CCPA 1979) ("[w]hen the PTO seeks to rely upon a chemical theory, in establishing a prima facie case of obviousness, it must provide evidentiary support for the existence and meaning of that theory."); *In re Eynde*, 480 F.2d 1364, 1370, 178 USPQ 470, 474 (CCPA 1973) ("we reject the notion that judicial or administrative notice may be taken of the state of the art. The facts constituting the state of the art are normally subject to the possibility of rational disagreement among reasonable men and are not amenable to the taking of such notice.").

⁷ *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697. While the court explained that, "as an administrative tribunal the Board clearly has expertise in the subject matter over which it exercises jurisdiction," it made clear that such "expertise may provide sufficient support for conclusions [only] as to peripheral issue." *Id.* at 1385-86, 59 USPQ2d at 1697.

⁸ *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697. See also *In re Lee*, ___ F.3d at ___, 61 USPQ2d at 1435.

⁹ See *In re Lee*, ___ F.3d at ___, 61 USPQ2d 1434-35; *In re Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697 (holding that general conclusions concerning what is "basic knowledge" or "common sense" to one of ordinary skill in the art without specific factual findings and some concrete evidence in the record to support these findings will not support an obviousness rejection).

¹⁰ See *In re Soli*, 317 F.2d 941, 945-46, 137 USPQ 797, 800 (CCPA 1963) (the court accepted the examiner's assertion that the use of "a control is standard procedure throughout the entire field of bacteriology" because it was readily verifiable and disclosed in references of record not cited by the Office); *In re Chevenard*, 139 F.2d 711, 713, 60 USPQ 239, 241 (CCPA 1943) (accepting examiner's finding that a brief heating at a higher temperature was the equivalent of a longer heating at a lower temperature where there was nothing in the record to indicate the contrary and where the applicant never demanded that the examiner produce evidence to support his statement).

¹¹ See *Soli*, 317 F.2d at 946, 37 USPQ at 801; *Chevenard*, 139 F.2d at 713, 60 USPQ at 241.

¹² See 37 CFR 1.111(b). See also *Chevenard*, 139 F.2d at 713, 60 USPQ at 241 ("[I]n the absence of any demand by appellant for the examiner to produce authority for his statement, we will not consider this contention.").

¹³ See 37 CFR 1.104(c)(2). See also *Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697 ("the Board [or examiner] must point to some concrete evidence in the record in support of these findings" to satisfy the substantial evidence test).

¹⁴ See *Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697; *Ahlert*, 424 F.2d at 1092, 165 USPQ 421.